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ATTN: ART UNIT 2841 – Ishwar Patel

Return Receipt Requested.

Miller Investments

Monday, August 01, 2005

COMMISIONER FOR PATENTS
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Attn: Ishwar Patel, Examiner
Art Unit 2841

Dear Mr Patel,

I am attaching the changes we discussed today to Claim number 1 to clarify that **Claim number one is generic** to all the figures attached.

For the purposes of simplifying the examining process, I am choosing **Specie II** with reference to **Figure 2** from your election requirement, with traverse.

The claims as presently written are based on claim 1 which describes the central section of the signal trace. Because the signal trace must of necessity attach to other structures such as vias a method of attachment to vias is described, to show the practicality of claim 1. Similarly, the need for internal air pressure relief of the air dielectric as outside air pressure changes or as gasses are released from materials in the board is addressed in claim 14. Claims are also made for some fabrication methods to effect the structure of Specie II.

The figures other than figure 2 as presently shown are expected manifestations of the basic claim and specie but which are based on Specie II and have more traces and/or more channels or cavities or which demonstrate alternate shapes for a plurality of species which accomplish the basic specie. These Alternate shaped materials or species demonstrate how in manufacturing several signal traces may be efficiently assembled together to effect the basic specie for each signal trace.

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A METHOD FOR EMBEDDING AN AIR DIELECTRIC TRANSMISSION LINE IN A PRINTED WIRING BOARD(PCB).

ABSTRACT

An air dielectric printed circuit board fabrication method is disclosed based on the principles of suspended substrate transmission lines as used in microwave assemblies.
The transmission line conductor is on a thin dielectric layer suspended in air between two conductive planes. The ground in the area around the transmission line may be cut back either by milling or by photo-etching to preclude shorting the transmission line.

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one or more

Claims:

What is claimed is

1. A PCB with internal signal traces on a thin dielectric layer suspended in air between two flat metal plates. Suspension in air is accomplished by indentation of the flat metal plates above and below the trace and a distance away from the edges of the trace, leaving the remainder of the metal away from the indentation to act as a spacer. The indented area is referred to as a "channel". See Figure 1 for orthogonal view and Figure 2 for end-on view.
2. The PCB of claim 1 fabricated by removal of material in the metal plate by etching, milling, punching or shaping or any other method
3. The PCB of claim 1 fabricated by adding material to the metal plate using

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